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**U1S S1218 S1820 S1931 S1975 S1978 S2123**

**S2185 S2207 S2210 S2215 S2247**

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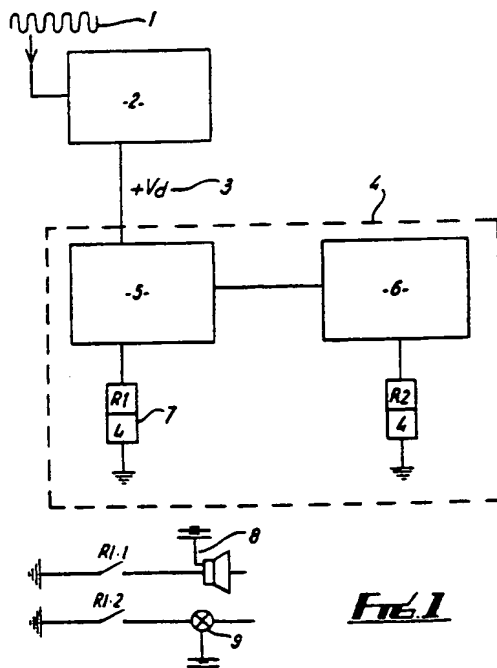
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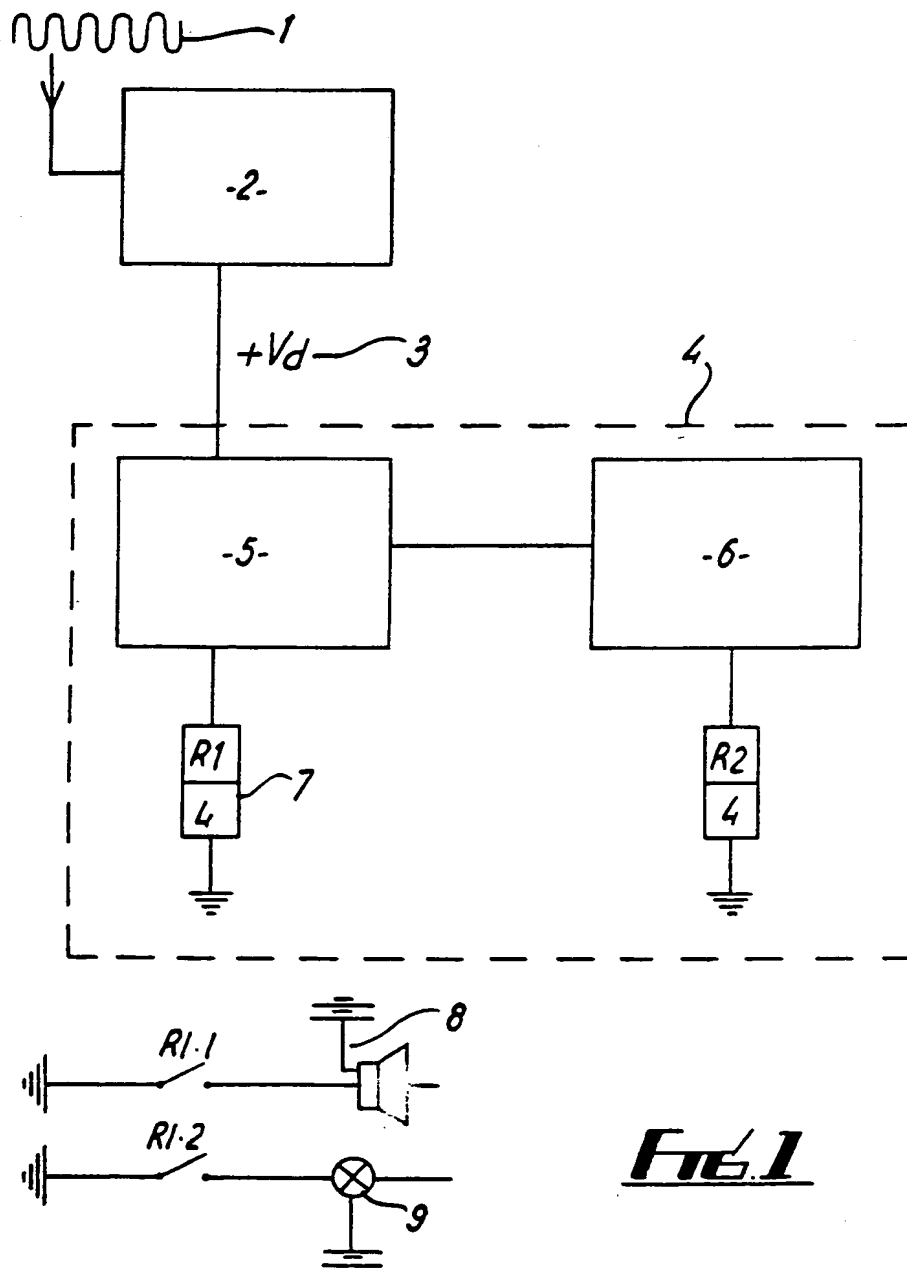
(58) Field of search

**UK CL (Edition J) G4H**

(54) **Remote control apparatus**

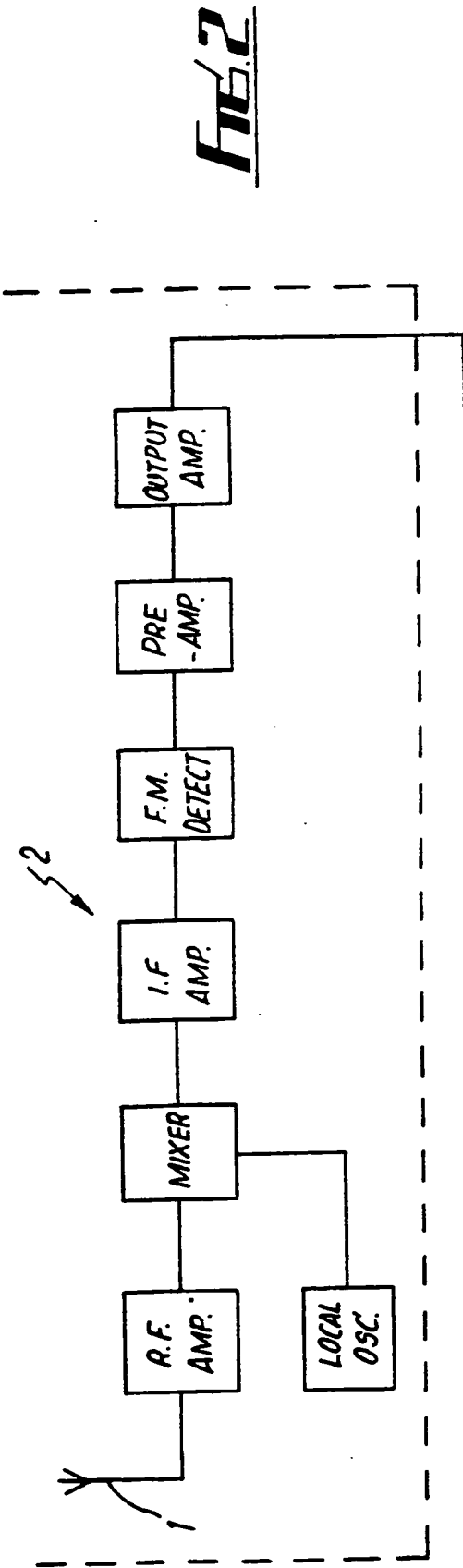
(57) Remote control apparatus for use as vehicle tracing apparatus comprises a radio receiver (2) and associated control circuits (4). On receiving a signal the receiver (2) sends a signal (3) to the control circuitry (4) which triggers warning devices (8) and (9) and after a preset delay triggers an immobilisation device to immobilise the vehicle.





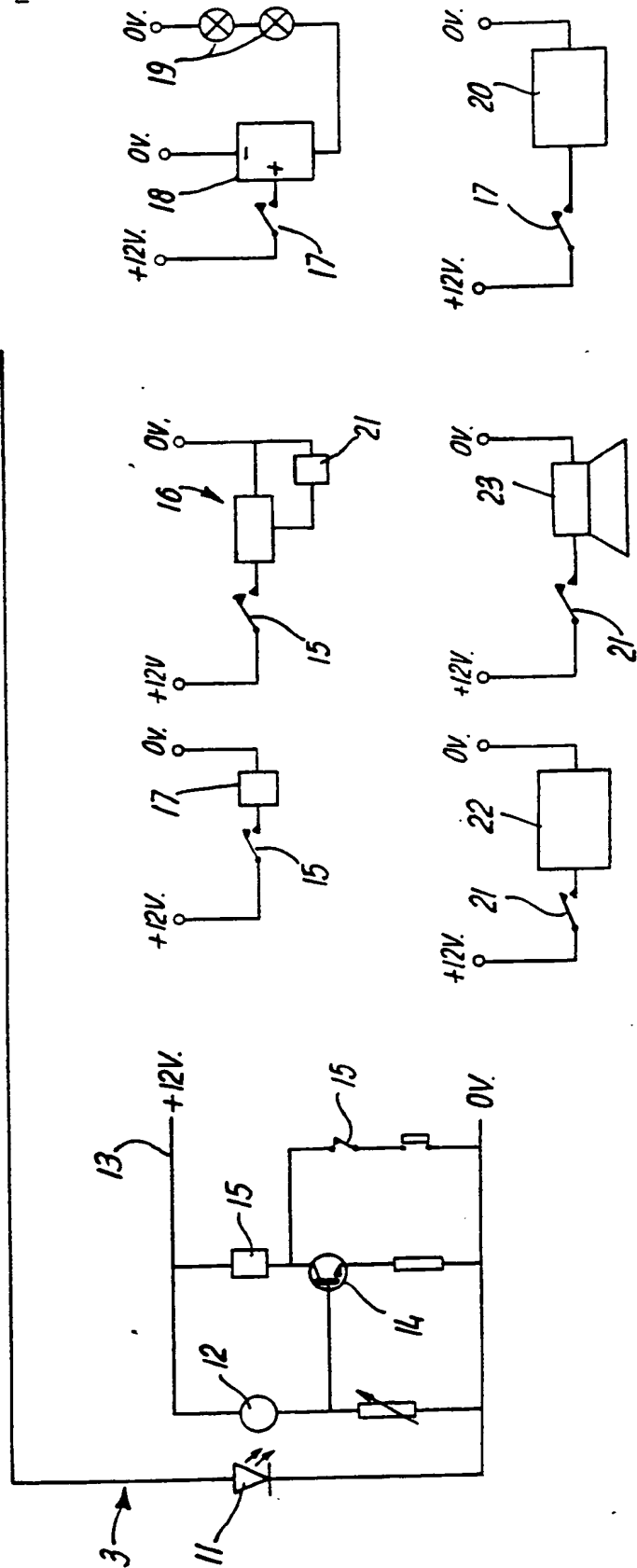
**FIG. 1**

2217081



*Fig. 2*

2/2



1   "REMOTE CONTROL APPARATUS"

2

3   This invention relates to remote control apparatus  
4   especially but not exclusively for use as vehicle  
5   tracing apparatus.

6

7   Thefts of and from motor vehicles have become so  
8   commonplace that it is now customary to fit alarm  
9   systems to vehicles. In general these systems produce  
10   an audible and visible warning when a vehicle is  
11   tampered with. They may also include some means of  
12   immobilisation and some sophisticated systems have been  
13   proposed which include a radio transmitter which sets  
14   off a remote alarm to alert a vehicle user that the  
15   vehicle is being tampered with. All such systems  
16   however have the drawback that their role is in  
17   discouraging and going some way to preventing theft of  
18   a vehicle. This means that should the vehicle actually  
19   be stolen despite the alarm there is no way of  
20   influencing it thereafter.

21

22   It is an object of the present invention to obviate or  
23   mitigate this disadvantage.

24

25   According to the present invention there is provided

1 remote control apparatus for use as vehicle tracing  
2 apparatus comprising a radio receiver on said vehicle  
3 and control means operable by said radio receiver to  
4 activate alarm means on said vehicle.

5  
6 Preferably said radio receiver is operable by a signal  
7 provided by a remote transmitter device.

8  
9 Preferably also said alarm means comprises audible  
10 and/or visual warning devices.

11  
12 Said audible and visual warning devices may for example  
13 be the vehicles hazard warning flashers, an interior  
14 visual display unit and a horn or siren.

15  
16 Preferably also the control means further includes  
17 timer means operable after a preset delay to activate  
18 immobilisation means for the vehicle.

19  
20 Said immobilisation means may be means for interrupting  
21 the ignition circuit or fuel supply of the vehicle.

22  
23 The apparatus may be connectable to an external power  
24 source such as the vehicle battery or powered from an  
25 independent internal supply.

26  
27 Preferably also manual reset means are provided for the  
28 apparatus.

29  
30 Embodiments of the present invention will now be  
31 described by way of example with reference to the  
32 accompanying drawing in which:-

33  
34 Fig 1 is a schematic block diagram of one  
35 embodiment of remote control apparatus in  
36 accordance with the present invention; and

1       Fit 2 is a circuit diagram of the apparatus  
2       of Fig 1.  
3  
4       Referring to the drawings remote control apparatus for  
5       use as vehicle tracing apparatus is illustrated.  
6       Referring first to the block diagram of Fig 1 the  
7       apparatus comprises a receiving aerial 1 which is  
8       connected to a radio receiver 2. The radio receiver 2  
9       has an electrical output 3 which connects to control  
10      circuitry shown generally at 4.  
11  
12      The control circuitry 4 comprises a main switching  
13      circuit 5 and a timer circuit 6. The main switching  
14      circuit 5 when activated operates the timer circuit 6  
15      and a series of relays 7. The relays 7 switch audible  
16      8 and visual 9 warning devices. The timer circuit 6,  
17      operates a fourth relay 10 which controls an  
18      immobilisation circuit of the vehicle.  
19  
20      In use the apparatus provides means of immobilising a  
21      vehicle which has been stolen and provides an alarm  
22      which draws attention to the fact that the vehicle has  
23      been stolen. If a vehicle has been stolen the vehicle  
24      user alerts the authorities who can operate a  
25      transmitter which sends an appropriate coded signal  
26      which is received by the radio receiver 2 on the  
27      vehicle through the receiving aerial 1. The receiver 2  
28      immediately sends an electrical signal 3 to the control  
29      circuitry 4 and activates the main switching circuit 5.  
30      The switching circuit 5 operates the relays 7 which  
31      activate the audible warning device 8 and visual  
32      warning device 9 which alert the occupants of the  
33      vehicle that theft has been detected and draws external  
34      attention to the vehicle. The switching circuit 5 also  
35      operates the timer circuit 6 which after a preset delay  
36      operates a further relay 10 which switches an

1 immobilisation circuit for the vehicle. The preset  
2 delay is arranged so that the occupants of the vehicle  
3 have sufficient time to stop the vehicle safely after  
4 the initial warning before immobilisation takes effect.  
5

6 A more detailed illustration of the apparatus is  
7 provided in the circuit diagram of Fig 2. The  
8 electrical output signal 3 from the receiver 2 drives a  
9 LED 11 and the light output from the LED 11 operates an  
10 optical switch 12 which is connected to a 12 volt  
11 supply 13 and operates to drive a BC 107 transistor 14.  
12 The transistor 14 in turn operates a relay 15. This  
13 relay 15 operates a timer circuit 16, switches a  
14 secondary relay 17, and has a third set of controls  
15 which hold the relay 15 on.  
16

17 The secondary relay 17 has two sets of contacts, one  
18 which operates a flasher unit 18 which operates the  
19 vehicles hazard warning lights 19, and one which  
20 operates a visual display unit 20 in the vehicle which  
21 warns the occupants that the vehicle has been stolen.  
22

23 The timer circuit 16 can be preset to switch after a  
24 desired time interval, for example between 5 seconds  
25 and 20 minutes. After the timer circuit 16 switches it  
26 operates a further relay 21 which has two sets of  
27 contacts. The first contacts disconnect the power  
28 supply to a fuel pump 22 and the second contacts  
29 activate a warning siren 23.  
30

31 A key lock, not shown, is provided to release relay 15  
32 and so release the other relays. The power supply 13  
33 may be derived from the vehicle battery or from a  
34 separate power source.  
35

36 The location of the vehicle could be determined using

1 the system also.

2

3 The apparatus described is by way of example only and  
4 various other configurations may be provided to achieve  
5 the same results. In addition the basic concept is not  
6 limited to the provision of vehicle tracing apparatus.  
7 For example the basic system can be adapted for use in  
8 an industrial or domestic environment. The system can  
9 be used to operate machinery, computers, facsimile  
10 machines and telex machines remotely at any time. In  
11 the domestic environment it can be used to operate  
12 domestic appliances such as central heating systems,  
13 cookers, lights, electric blinds etc. The system has  
14 the advantage that it removes the restrictions which  
15 surround preset timers commonly used at present and  
16 allow an operator to choose the time at which equipment  
17 is operated.

18

19 Modifications and improvements may be incorporated  
20 without departing from the scope of the invention.

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## CLAIMS

1. Remote control apparatus for use as vehicle tracing apparatus comprising a radio receiver on said vehicle and control means operable by said radio receiver to activate alarm means on said vehicle.
2. Remote control apparatus as claimed in Claim 1, wherein the radio receiver is operable by a signal provided by a remote transmitter device.
3. Remote control apparatus as claimed in Claim 1 or 2, wherein the alarm means comprises audible and or visual warning devices.
4. Remote control apparatus as claimed in Claim 3, wherein an audible warning device in the form of a horn or siren is provided.
5. Remote control apparatus as claimed in Claim 3, wherein the visual warning devices comprise hazard warning flashers on the vehicle and/or an interior visual display device.
6. Remote control apparatus as claimed in any one of the preceding Claims, whereon the control means further includes timer means operable after a preset delay to activate immobilisation means for the vehicle.
7. Remote control apparatus as claimed in Claim 6, wherein the immobilisation means comprises means for interrupting the fuel or ignition supply of the vehicle.
8. Remote control apparatus as claimed in any one of the preceding Claims, wherein an independent power supply is provided for the apparatus.

9. Remote control apparatus as claimed in any one of the preceding Claims, wherein manually operable reset means are provided for the apparatus.
10. Remote control apparatus substantially as hereinbefore described, with reference to and as shown in the accompanying drawings.